

Appendix C - Worksheets

Worksheet No.	Table of Contents Title	Page
1	Overall Cost Summary	2
2	Proposed OTAQ Compliance Program Fee Structure By Industry	3
3	Summary Sheet-LOD	4
4	Summary Sheet-CCD	5
5	LOD Direct Labor	6
6	LOD Indirect Labor Cost	7
7	LOD Additional Labor Needs	8
8	Seniors Cost-LOD	9
9	Ann Arbor Facilities Costs	10
10	Labratory Modernization Budget Request	11
11	Building & Facilities Costs for NVFEL	12
12	Core Testing Operations	13
13	CCD Programs	14
14	CCD Labor	15
15	Seniors Cost-CCD	17
16	Enhanced Engine Compliance Programs	18

Overall Cost Summary

	Total	Allocable to Cost Study	Recoverable Costs	ICI	LDV w/o ICI	MC HW	HD HW	NR CI	Other	Total
Labor (PC&B)	FTE									
Direct	113.55	59.08	\$5,883,186	\$177,252	\$3,280,165	\$149,370	\$1,404,646	\$504,273	\$367,480	\$5,883,186
Indirect	64.20	21.39	\$2,130,459	\$87,728	\$1,452,275	\$23,459	\$345,509	\$40,887	\$180,601	\$2,130,459
Total Labor			\$8,013,645	\$264,980	\$4,732,440	\$172,829	\$1,750,155	\$545,160	\$548,081	\$8,013,645
	Total Projected Costs		Recoverable Costs							
Operating:										
Indirect Program Costs:										
Travel	\$185,000		\$111,665	\$2,865	\$56,930	\$3,574	\$29,641	\$12,066	\$6,588	\$111,664
Seniors	\$1,178,600		\$465,807	\$16,147	\$301,053	\$14,272	\$82,922	\$27,189	\$24,224	\$465,807
Buildings& Facilities Purchase and Repairs	\$21,427,000		\$236,559	\$11,183	\$175,197	\$0	\$32,258	\$0	\$17,921	\$236,559
Misc. & Office Supplies	\$60,000		\$39,274	\$846	\$17,523	\$1,269	\$12,025	\$5,137	\$2,475	\$39,275
Training	\$144,800		\$64,980	\$2,293	\$39,812	\$1,153	\$13,511	\$3,892	\$4,319	\$64,980
Lab Modernization	\$14,130,000		\$1,003,000	\$48,600	\$761,400	\$0	\$193,000	\$0	\$0	\$1,003,000
Communications	\$3,353,835		\$694,510	\$24,148	\$446,865	\$20,349	\$125,853	\$40,719	\$36,577	\$694,511
Facilities Operating Costs Ann Arbor	\$6,540,074		\$1,603,231	\$71,847	\$1,329,568	\$60,545	\$90,817	\$0	\$50,454	\$1,603,231
Safety Health and Environmental - AA	\$650,000		\$170,831	\$7,656	\$141,671	\$6,451	\$9,677	\$0	\$5,376	\$170,831
Total Indirect Program Costs			\$4,389,857	\$185,585	\$3,270,019	\$107,613	\$589,704	\$89,003	\$147,934	\$4,389,858
Direct Program Costs:										
CCD Compliance Programs	\$3,158,400		\$3,158,400	\$82,413	\$1,707,587	\$118,400	\$769,448	\$478,031	\$2,521	\$3,158,400
LOD Core Testing Operations	\$2,274,460		\$1,592,546	\$77,357	\$1,211,940	\$0	\$275,431	\$0	\$27,818	\$1,592,546
Total Direct Program Costs:	\$5,432,860		\$4,750,946	\$159,770	\$2,919,527	\$118,400	\$1,044,879	\$478,031	\$30,339	\$4,750,946
Total Operating Costs:										
Overall EPA Overhead Cost (16.90%)			2,899,103	103,147	1,845,816	67,404	572,021	187,961	122,754	2,899,103
Grand Total Recoverable Costs			\$20,053,551	\$713,482	\$12,767,802	\$466,246	\$3,956,759	\$1,300,155	\$849,108	\$20,053,552

Proposed OTAQ Compliance Program Fee Structure by Industry

LDV & Highway Motorcycles			HD Highway & Nonroad CI			Other	
405:LD			130:HD-HW			1027:Other	
174:MC			603:NR-CI				
85:ICI							
			\$3,956,759	HD HW			
\$13,947,530			\$1,300,155	NR CI		\$849,108	
Industry			Industry			Industry	
Total Costs	#Cert & Fee		Total Costs	#Cert & Fee		Total Costs	#Cert & Fee
MC HW			HD HW CI + SI			Others	
\$466,246	193		\$3,956,759	130		\$849,108	1027
Proposed Fee:	\$2,416		Proposed Fee:	\$30,437		Proposed Fee:	\$827
Fee per Unit:	\$1.21		Fee per Unit:	\$2.45			
Fee Today:	\$840		Fee Today:	\$12,584			
Industry Sales:	386,127		Industry Sales:	1,614,906			
						HD HWY Evap	42
LD ¹			Nonroad CI ²			Marine CI/SI ³ & IMO	204
\$12,767,802	405		\$1,300,155	603		Small NR SI<25HP	546
Proposed FED Fee:	\$33,911		Proposed Fee:	\$2,156		Locomotives	10
Proposed CA Fee:	\$16,958		Fee per Unit:	\$1.48		*Large SI	50
Av. Fee per Unit:	\$0.85		Fee Today:	\$0		*Rec. Marine CI	25
FED Fee Today:	\$27,211		Industry Sales:	880,213		*Marine SI ⁴	25
CA Fee Today:	\$8,956					*Recreational	100
Industry Sales:	15,000,000					(Off Road MC)	
						(ATVs)	
						(Snowmobiles)	
ICI						CA Only (HD)	25
\$713,482	85					Total Families	1,027
Proposed Fee:	\$8,394						
Industry Sales:	402						
Fee per Unit:	\$1,775						
\$13,947,530			\$5,256,914			\$849,108	
Grand Total Est. Fees to be Collected:						\$20,053,552	
¹ Includes Medium-Duty Passenger vehicles and Complete Heavy-Duty vehicles							
² NR CI engines are nonroad diesel engines ≥50Hp regulated in 40 CFR Part 89 and <50Hp regulated in 40 CFR Part 89							
³ Includes outboard motors used on personal watercraft.							
⁴ Onboard & sterndrive marine engines.							
*May be regulated in upcoming rules.							

Summary Sheet-LOD

Operations Division Calculation of Recoverable Costs												
	Total	Allocation Method	Compl. Testing Costs	Light Duty Vehicles								Total
				ICI	Cert/FE	In-use	Total LDV w/o ICI	MC HW	HD HW	NR CI	Other	
FTE												
Labor (PC&B):												
Direct	7.0	Actual Count	\$697,060	\$41,824	\$376,412	\$278,824	\$655,236	\$0	\$0	\$0	\$0	\$697,060
Additional Direct Needs	9.5	Actual Count	\$946,010	\$35,849	\$322,639	\$238,992	\$561,631	\$0	\$224,055	\$0	\$124,475	\$946,010
Indirect	14.7	Various	\$1,466,629	\$69,332	\$623,984	\$462,210	\$1,086,194	\$0	\$199,995	\$0	\$111,108	\$1,466,629
Additional Indirect Needs	1.5	Actual Count	\$149,370	\$2,987	\$26,887	\$19,916	\$46,803	\$0	\$49,790	\$0	\$49,790	\$149,370
Total Labor Costs:	32.7		\$3,259,069	\$149,991	\$1,349,922	\$999,942	\$2,349,865	\$0	\$473,840	\$0	\$285,373	\$3,259,069
Operating:												
Indirect Program Costs:												
Travel	\$30,000	FTE	\$10,206	\$482.47	\$4,342.27	\$3,216	\$7,559	\$0	\$1,392	\$0	\$773	\$10,206
Seniors	\$672,000	STE ¹	\$140,305	\$6,632.62	\$59,694	\$44,217	\$103,911	\$0	\$19,133	\$0	\$10,629	\$140,305
Facilities Operating Costs Ann Arb	\$6,540,074	Square Feet	\$665,995	\$31,483	\$283,351	\$209,889	\$493,240	\$0	\$90,817	\$0	\$50,454	\$665,995
Training	\$94,800	FTE	\$32,252	\$1,525	\$13,722	\$10,164	\$23,886	\$0	\$4,398	\$0	\$2,443	\$32,252
Safety Health and Environmental	\$650,000	FTE	\$70,964	\$3,354.68	\$30,192	\$22,365	\$52,557	\$0	\$9,677	\$0	\$5,376	\$70,964
Lab Mod	\$14,130,000	Worksheet 10	\$1,003,000	\$48,600	\$437,400	\$324,000	\$761,400	\$0	\$193,000	\$0	\$0	\$1,003,000
Communications	\$3,353,835	FTE	\$223,839	\$10,581	\$95,233	\$70,543	\$165,777	\$0	\$30,524	\$0	\$16,958	\$223,839
Buildings& Facilities	\$21,427,000	Worksheet 11	\$236,559	\$11,182.78	\$100,644.99	\$74,552	\$175,197	\$0	\$32,258	\$0	\$17,921	\$236,559
Total Indirect Program Costs:	\$46,897,709		\$2,383,121	\$113,842	\$1,024,579	\$758,947	\$1,783,526	\$0	\$381,198	\$0	\$104,555	\$2,383,121
Direct Program Costs:												
Core Testing Operations	\$2,274,460	Actual Count	\$1,592,545	\$77,357	\$696,221	\$515,720	\$1,211,940	\$0	\$275,431	\$0	\$27,818	\$1,592,545
Total Direct Program Costs:	\$2,274,460		\$1,592,545	\$77,357	\$696,221	\$515,720	\$1,211,940	\$0	\$275,431	\$0	\$27,818	\$1,592,545
Grand Total Recoverable Costs			\$7,234,735	\$341,190	\$3,070,721	\$2,274,609	\$5,345,331	\$0	\$1,130,469	\$0	\$417,746	\$7,234,735
	¹	Senior Time Equivalent										

Summary Sheet-CCD

Compliance Division Calculation of Recoverable Costs												
	Total	Allocation Method	Compliance Costs	Light Duty Vehs and Trucks			Total LD w/o ICI	MC HW	HD HW	NR CI	Other	Total
				ICI	Cert & FE	In-use						
Labor (PC&B):												
DC Direct	19.36	Actual Count	\$1,927,869	\$0	\$0	\$0	\$0	\$0	\$1,180,591	\$504,273	\$243,005	\$1,927,869
DC Indirect.	1.57	FTE	\$156,314	\$0	\$0	\$0	\$0	\$0	\$95,724	\$40,887	\$19,703	\$156,314
AA Direct	23.22	Actual Count	\$2,312,248	\$99,580	\$1,037,624	\$1,025,674	\$2,063,298	\$149,370				\$2,312,248
AA Indirect	3.60	FTE	\$358,147	\$15,409	\$160,564	\$158,715	\$319,278	\$23,459				\$358,147
Total Labor Costs:	47.75		\$4,754,578	\$114,989	\$1,198,188	\$1,184,389	\$2,382,576	\$172,829	\$1,276,315	\$545,160	\$262,708	\$4,754,578
Operating:												
Indirect Program Costs:												
Travel DC & AA	\$155,000	FTE	\$101,459	\$2,383	\$24,829	\$24,543	\$49,371	\$3,574	\$28,250	\$12,066	\$5,814	\$101,460
Seniors AA	\$327,800	STE ¹	\$220,929	\$9,515	\$99,142	\$98,000	\$197,142	\$14,272				\$220,929
Seniors DC	\$178,800	STE	\$104,573	\$0	\$0	\$0	\$0	\$0	\$63,789	\$27,189	\$13,595	\$104,573
Ann Arbor Facilities Operating Costs			\$937,236	\$40,363	\$420,586	\$415,742	\$836,328	\$60,545	\$0	\$0	\$0	\$937,236
Safety Health and Environmental			\$99,866	\$4,301	\$44,815	\$44,299	\$89,114	\$6,451	\$0	\$0	\$0	\$99,866
Communications			\$470,671	\$13,566	\$141,358	\$139,730	\$281,088	\$20,349	\$95,330	\$40,719	\$19,620	\$470,671
Training DC & AA	\$50,000	FTE	\$32,729	\$769	\$8,009	\$7,917	\$15,926	\$1,153	\$9,113	\$3,892	\$1,876	\$32,729
Misc. & Office Supplies., AA & DC	\$60,000	FTE	\$39,274	\$846	\$8,812	\$8,711	\$17,523	\$1,269	\$12,025	\$5,137	\$2,475	\$39,274
Total Indirect Program Costs:	\$771,600		\$2,006,737	\$71,742	\$747,551	\$738,942	\$1,486,493	\$107,613	\$208,506	\$89,003	\$43,380	\$2,006,737
Direct Program Costs:												
CCD Compliance Programs	\$3,158,400	Actual Count	\$3,158,400	\$82,413	\$858,738	\$848,849	\$1,707,587	\$118,400	\$769,448	\$478,031	\$2,521	\$3,158,400
Total Direct Program Costs:	\$3,158,400		\$3,158,400	\$82,413	\$858,738	\$848,849	\$1,707,587	\$118,400	\$769,448	\$478,031	\$2,521	\$3,158,400
Grand Total Recoverable Costs			\$9,919,715	\$269,144	\$2,804,477	\$2,772,180	\$5,576,657	\$398,842	\$2,254,269	\$1,112,195	\$308,609	\$9,919,715
		¹ Senior Time Equivalent										

LOD Direct Labor

Direct Labor -			
Compliance Development and Testing Group:			
Overall FTE	Vehicle Testing FTE	% Compliance Related Vehicle Testing	Recoverable FTE
19	10	70%	7
Advanced Testing Group:			
Overall FTE	Vehicle Testing FTE	% Compliance Related Vehicle Testing	Recoverable FTE
20	0	0	0
		Total	7

LOD Indirect Labor Cost

Detail of Indirect FTE:				
		# of FTE	% of Time Allocable to Compliance	FTE Allocable to Compliance Testing
Testing Services Group		16	29%	4.6
	Data Team:	4		1.0
	Chemlab:	5		1.4
	Maintenance Team:	7		2.2
Facilities Services Group		10	30%	2.9
	Facilities:	4.75		1.4
	Purchasing:	3		0.2
	Quality Control:	2		1.3
Information Management Group		11.25	13%	1.5
	Project Management Network:	9	14%	1.3
	Lab Network System:	2.25	9%	0.2
LOD Immediate Office		17	34%	5.8
Total Ann Arbor FTE		306.2		
Total Direct Operational LOD FTE		48.5		
Total FTE Allocable to Compliance Testing				14.7
Total OTAQ FTE		377.4		
Recoverable CCD FTE		26.95		

LOD Additional Labor Needs

	Light Duty		Heavy Duty Highway Engine ³	Other	Total FTE
	Rover Testing ¹	Medium Duty Chassis ²			
FTE - Direct	2.00	4.00	2.25	1.25	9.50
FTE - Indirect	0.00	0.50	0.50	0.50	1.50

1. Rover Testing: would require 2 Technicians

2. M.D. Chasis: would require 3 technicians, 1 engineer and .5Data management specialist to process the data

3. H.D.E.: would require 2 technicians, .25 engineer and .5 data management specialist to perform and process test

Seniors Costs-LOD

Seniors			
	% alloc to Comp	Contract Cost	Total
Direct:	45%	\$96,000	\$43,200
Indirect:			
Clerical	5%	\$96,000	\$4,594
Safety Health & Environmental	26%	\$32,000	\$8,410
Testing Services Group	0%	\$128,000	\$0
Facilities	26%	\$256,000	\$67,281
Information Management Gro	26%	\$64,000	\$16,820
Grand Total	21%	\$672,000	\$140,305

Ann Arbor Facilities Costs

	FY01	Recoverable	Allocation						
Facility Requirements	Costs	Portion	Basis		LDV	MC HW	HD HW	Other	Total
Facilities Operations	\$6,540,074	\$1,603,231		Overall Summary	\$1,401,415	\$60,545	\$90,817	\$50,454	\$1,603,231
				CCD Summary	\$876,692	\$60,545	\$0	\$0	\$937,236
				LOD Summary	\$524,723	\$0	\$90,817	\$50,454	\$665,995
NVFEL Operations & Maint Contract	\$700,000	\$243,738	sq ft						
Utilities	\$500,000	\$174,099	sq ft						
Housekeeping (Janitorial, etc)	\$305,000	\$106,200	sq ft						
Security Services(contract, equipment, etc)	\$650,000	\$188,036	sq ft						
ESPC Contract	\$1,210,120	\$421,361	sq ft						
Maintenance (emergencies,FM-200,etc)	\$75,000	\$26,115	sq ft						
Building renovation	\$80,000	\$27,856	sq ft						
Lab Facility Infrastructure	\$200,000	\$69,639	sq ft						
Facilities User Services(forklifts, copiers lawn, cars	\$230,000	\$80,085	sq ft						
Misc (Noresco Office in boiler room, Roof patch	\$45,000	\$15,669	sq ft						
Office Building Rent, Utilities, etc	\$2,225,000	\$250,433	sq ft						

Laboratory Modification Budget Request

NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY				
Laboratory Modernization Plan - Budget Submission 2002 and 2003				
<i>Required Instrumentation</i>	<i>Equipment</i>		<i>Non-</i>	<i>10 yr</i>
	<i>Cost Estimate</i>	<i>Recoverable</i>	<i>Recoverable</i>	<i>Amortized</i>
Critical Tier II LDV Test Capability:				
<u>Standard LDV Chassis Test Sites</u>				
Low Emission Sampling System	\$1,500,000	\$1,500,000		\$150,000
LDV Chassis Dyno#1: Compliance upgrade of site	\$100,000	\$100,000		\$10,000
Portable Emissions Systems - 20 @ 50k ea	\$1,000,000	\$1,000,000		\$100,000
LDV Chassis Dynos #6: Low Emission Analytical System & Single Roll Dyno.	\$700,000	\$700,000		\$70,000
One time support labs upgrade	\$400,000	\$400,000		\$40,000
OBD Performance Site	\$400,000	\$400,000		\$40,000
LDV Chassis Dynos # 3&4: Clayton Dyno Closed Loop Cooling				
<u>QC Gas Laboratory</u>				
Upgrade QC Analytical Bench for Low Emissions	\$400,000	\$400,000		\$40,000
<u>Diesel and 4WD Car/Truck Test Site</u>				
Chassis Dyno (US06, SUV and Hybrids)	\$1,000,000	\$1,000,000		\$100,000
Diesel Emission Analytical/Sampling System	\$800,000	\$800,000		\$80,000
Low Emission Analytical System	\$500,000	\$500,000		\$50,000
<u>New Procedures (US06, SC03) Test Site</u>				
Low Emission PM Analytical System	\$300,000	\$300,000		\$30,000
Tier II Low Range HC & NOX Analyzers	\$400,000	\$400,000		\$40,000
<u>Support Laboratories and Shops</u>				
Required Upgrades to Support Labs	\$600,000	\$600,000		\$60,000
Critical Diesel Engine Standards Test Capability:				
<u>Heavy Duty Test Engine Sites</u>				
HDE#2 HDE Cell Controller Replacement	\$300,000	\$300,000		\$30,000
Sulfur Measurement Equipment	\$500,000		\$500,000	
HDE #2: Analytical / Sampling System	\$730,000	\$730,000		\$73,000
HDE #1&2: Diesel Engine Cell Cooling Control	\$30,000	\$30,000		\$3,000
HDE #1&2: Nox & PM Measurement Methods/Equipment	\$750,000	\$750,000		\$75,000
Chemistry Laboratory: GC/MS Magnetic Sector Analyzer for toxins	\$600,000		\$600,000	
HDE #2: SCR Load Controller [Heavy Duty Engine Test Sites]	\$120,000	\$120,000		\$12,000
Wide High Torque HDE A/C Dyno				
Critical Regulatory Development Test Capability:				
<u>Advanced Engine Test Sites</u>				
HFID/Nox Analyzers/Analytical Systems (required for alt fuels)	\$500,000		\$500,000	
HDE Cells 3 & 4: SCR Controllers	\$200,000		\$200,000	
Low Emission PM Analytical Systems	\$600,000		\$600,000	
Room 310: Diesel Analysis System (includes tunnel)	\$500,000		\$500,000	
<u>Climate Control test Facility</u>				
LD Chassis Dyno Installation	\$600,000		\$600,000	
Dilute/Raw Emission Analytical System	\$600,000		\$600,000	
Funding Request FY2001	\$2,400,000	\$1,900,000	\$500,000	
Funding Request FY2002	\$11,730,000	\$8,130,000	\$3,600,000	
Funding Request FY2003	\$0			
Total Funding	\$14,130,000	\$10,030,000	\$4,100,000	\$1,003,000

Building and Facilities Costs for NVFEL

Facilities Costs for NVFEL							
Fiscal Year Funded	Project						
<u>FY Completed</u>	<u>Summarization of Projects</u>	Amount	Amort. Period (Years)	Yr. Amort. Completed	Total Annual Amortized Costs	Allocation Method	Recoverable Compliance Annual Amortized Cost
1998	Office Furniture Lease	\$959,862	10	2008	\$95,986	sq.ft.	\$10,804
1998	Removal and replacement of Underground fuel tanks	\$1,916,000	22	2020	\$87,091	sq.ft.	\$30,325
1995	Replacement of Halon Fire Protection Systems	\$173,000	31.5	2026.5	\$5,492	sq.ft.	\$1,912
1996	Laboratory Toxic Gas Monitoring and Detection System	\$492,000	31.5	2026.5	\$15,619	sq.ft.	\$5,439
1996	Potable Water Loop	\$66,000	50	2046	\$1,320	sq.ft.	\$460
1996	Installation of Greenlights	\$154,000	31.5	2027.5	\$4,889	sq.ft.	\$1,702
1999	Fuel Drum Storage Bldg	\$30,000	22	2021	\$1,364	sq.ft.	\$475
1998	Space Alteration New Office Building	\$96,000	10	2008	\$9,600	sq.ft.	\$3,343
		\$2,927,000					\$54,459
	<u>Prior Projects Still Being Amortized</u>						
1991	Building Purchase	\$14,000,000	31.5	2022.5	\$444,444	FTE	\$137,800
1992	Office Expansion	\$4,500,000	31.5	2023.5	\$142,857	FTE	\$44,300
		\$18,500,000					\$182,100
	Grand Total	\$21,427,000					\$236,559

Core Testing Operations

			Core Testing Operations						
		<u>Total</u>	<u>% Alloc to CDTG</u>	<u>% Alloc To Compliance</u>	<u>Recoverable Cost</u>	<u>Light Duty</u>	<u>HD HW</u>	<u>Other</u>	<u>Total</u>
Testing Support Services		\$782,800			\$273,980				
	Instrumentation Repair Parts	\$148,800	50%	70%	\$52,080	\$41,033	\$7,102	\$3,945	\$52,080
	Test Fuel Calibration and Gases	\$228,000	50%	70%	\$79,800	\$62,873	\$10,882	\$6,045	\$79,800
	Tools, Fixtures and Small Equipment	\$230,000	50%	70%	\$80,500	\$63,424	\$10,977	\$6,098	\$80,500
	Maint repair and Supplies	\$176,000	50%	70%	\$61,600	\$48,533	\$8,400	\$4,667	\$61,600
Lab Maint Contracts		\$266,300	50%	70%	\$93,205	\$73,434	\$12,710	\$7,061	\$93,205
Vehicle Procurement		\$1,000,000	100%	100%	\$1,000,000	\$1,000,000			\$1,000,000
Engine Procurement - Heavy Duty		\$225,360	100%	100%	\$225,360		\$225,360		\$225,360
Total Testing Operations		\$2,274,460			\$1,592,545	\$1,289,297	\$275,431	\$27,817	\$1,592,545

CCD Programs

NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY	
Certification and Compliance Division - Anticipated Projected Costs 2003	
Recoverable Program Items	Budget Cost Estimate
<u>Light-Duty Compliance</u>	
CFEIS-Website Features and Information	\$1,165,000
Coast Down Audits	\$270,000
Fuel Economy Audits	\$300,000
On-road Testing	\$50,000
Industry Workshops	\$5,000
LD Subtotal	\$1,790,000
<u>Motorcycle Compliance</u>	
Motorcycle Procurement	\$72,000
Motorcycle Testing	\$26,400
Motorcycle Computer Support	\$20,000
Motorcycle Subtotal	\$118,400
Total	\$1,908,400
<u>Heavy-Duty Highway Engine Compliance</u>	
Computer hardware/software	\$12,248
In-use on-vehicle testing	\$297,200
On-vehicle testing units purchase	\$80,000
Enhanced engine compliance programs	\$380,000
Total	\$769,448
<u>Nonroad CI Engine Compliance</u>	
Computer hardware/software	\$5,231
In-use on-vehicle testing	\$72,800
On-vehicle testing units purchase	\$20,000
Enhanced engine compliance programs	\$380,000
Total	\$478,031
<u>Other Compliance</u>	
Computer hardware/software	\$2,521
Total	\$2,521
Funding Recoverable Through Fee Program	\$3,158,400

CCD Labor

	# of FTE	non-recoverable	Recoverable/Direct	Indirect	LD Cert	LD FE	LD In-use	MC HW	HD HWY	NR CI	OTHER
	1	0	0.00	1.00							
	1	0	0.00	1.00							
	1	0	0.00	1.00							
	1	0	0.00	1.00							
	1	0	0.00	1.00							
	1	0.3	0.70	0.00	0.20	0.20	0.30				
	0.8	0.2	0.60	0.00	0.10	0.20	0.30				
	1	0	1.00	0.00	0.20	0.30	0.50				
	1	0	1.00	0.00	0.20	0.30	0.50				
	1	0	1.00	0.00	0.20	0.30	0.50				
	1	0	1.00	0.00			1.00				
	1	0	1.00	0.00			1.00				
	1	0	1.00	0.00	0.20	0.20	0.60				
	1	0	1.00	0.00	0.00	0.00		1.00			
	1	0.5	0.50	0.00	0.10	0.10	0.30				
	1	0.1	0.90	0.00	0.20	0.20	0.50				
	1	0	1.00	0.00	0.20	0.20	0.60				
	0.5	0	0.50	0.00	0.00	0.00	0.00	0.50			
	1	0	1.00	0.00	0.30	0.20	0.50				
	1	0.2	0.80		0.30		0.50				
	1	0	0.30	0.70	0.10	0.20					
	1	1	0.00	0.00							
	1	0.5	0.50	0.00	0.20	0.10	0.20				
	0.4	0.28	0.12	0.00	0.12						
	1	0.2	0.80	0.00	0.30	0.30	0.20				
	1	0.2	0.80	0.00	0.30	0.30	0.20				
	1	0	1.00	0.00	0.40	0.30	0.30				
	1	0	1.00	0.00	0.20	0.60	0.20				
	1	0	1.00	0.00	0.20	0.40	0.40				
	1	0	1.00	0.00	0.20	0.40	0.40				
	1	0.6	0.40	0.00	0.20	0.00	0.20				
	1	0.5	0.50	0.00	0.20	0.10	0.20				
	0.5	0	0.50	0.00	0.30	0.20					
	1	0	1.00	0.00	0.10	0.10	0.80				
	0.1		0.10	0.00	0.10						
	1	0.3	0.70	0.00	0.70						
	1	1	0.00	0.00							
	1	1	0.00	0.00							
	1	1	0.00	0.00							
	0.5	0	0.50	0.00	0.20	0.20	0.10	0.00			
AA Total	36.80	7.88	23.22	5.70	6.02	5.40	10.30	1.50			

CCD Labor

	# of FTE	non-recoverable	Recoverable	Indirect	LD Cert	LD FE	LD In-use	MC HW	HD HWY	NR CI	OTHER
	4		3.00	1.00					1	1	1
	1			1							
	1	0.44	0.56						0.35	0.13	0.08
	1	0.44	0.56						0.35	0.13	0.08
	1	0.44	0.56						0.35	0.13	0.08
	1	0	1.0						0.85	0.15	
	1	0.9	0.1						0.05		
	1	0.8	0.2						0.2		
	1	0	1.0						0.85	0.15	
	1	0.18	0.8						0.3	0.15	0.37
	1	0	1.0						0.85	0.15	0
	1	0	1.0						0.85	0.15	0
	1	0.55	0.5						0.2	0.22	0.02
	1	0.01	1.0						0.8	0.12	0.07
	1	0	1.0						0.85	0.15	0
	1	0.14	0.9						0.29	0.35	0.22
	1	0.1	1.0						0.1	0.62	0.16
	1	0.03	1.0						0.42	0.4	0.14
	1	0	1.0						0.85	0.15	0
	1	0	1.0						0.85	0.15	0
	1	0.44	0.6						0.35	0.13	0.08
	1	1	0.0								0
	1	0.9	0.1								0.1
	1	0.6	0.4						0.4		0
	1	1	0.0								0
	1	0.9	0.1						0.05	0.05	0
	1	0.85	0.2						0.075	0.075	0
	1	1	0.0								0
	1			1.0							
	1	1	0.0								0
	1	1	0.0								0
	1	0.3	0.7						0.35	0.35	0
	1	0.65	0.4						0.15	0.15	0.05
	1	1	0.0								0
DC Total	37.00	14.59	19.36	3.00	0.00	0.00	0.00	0.00	11.85570	5.06	2.44
Grand Total	73.8	22.47	42.58	8.70	6.02	5.40	10.30	1.50	11.86	5.06	2.44
		0.65									
		5.69									
		48.27									
		\$4,102,950.00									

Seniors Cost-CCD

Seniors	% of Full Time	PC&B	Recoverable Total
Ann Arbor Direct		\$238,400	\$162,410
	90%	\$29,800	\$26,820
	60%	\$29,800	\$17,880
	50%	\$29,800	\$14,900
	100%	\$29,800	\$29,800
	60%	\$29,800	\$17,880
	100%	\$29,800	\$29,800
	25%	\$29,800	\$7,450
	60%	\$29,800	\$17,880
		\$89,400	\$58,519
	65%	\$29,800	\$19,506
	65%	\$29,800	\$19,506
	65%	\$29,800	\$19,506
AA Subtotal		\$327,800	\$220,929
DC Direct		\$119,200	\$65,560
	100%	\$29,800	\$29,800
	10%	\$29,800	\$2,980
	10%	\$29,800	\$2,980
	100%	\$29,800	\$29,800
Indirect:		\$59,600	\$39,013
	65%	\$29,800	\$19,506
	65%	\$29,800	\$19,506
DC Subtotal:		\$178,800	\$104,573
Grand Total	65%	\$59,600	\$39,013

Enhanced Engine Compliance Programs

	# of tests	Contract Tests Costs	
		NR CI	HD HW
Confirmatory Testing for Certification			
10% of Certified Families (1 eng/family)	20	10 families	10 families
Contract- \$20,000/engine		\$200,000	\$200,000
Selective Enforcement Audits		10 audits	10 audits
\$3,000/audit		\$30,000	\$30,000
In-Use Engine Dyno Testing			
Families (5 engines/family - 2 famlies)	10	1 Family	1 Family
Contract- \$30,000 per engine		\$150,000	\$150,000
Total Recoverable Costs	30	\$380,000	\$380,000
Grand Total		\$760,000	